ABSTRACT OF THE DISCLOSURE

An apparatus for measuring chromatic dispersion in a waveguide uses a CW laser probe signal and a modulated pump signal which are coupled together into a waveguide. The modulated pump signal causes spatial and temporal Raman gain modulation of the probe signal. The amplitude of the pump signal is modulated and the frequency response of the probe signal at the output end of the waveguide is measured. The chromatic dispersion of the waveguide at a given wavelength is determined from the measurements.